

OVERLAY MEASUREMENTS USING PERIODIC GRATINGS

ABSTRACT

Overlay measurements for a semiconductor wafer are obtained by forming a periodic grating on the wafer having a first set of gratings and a second set of gratings. The first and second sets of gratings are formed on the wafer using a first mask and a second mask, respectively. The first and second sets of gratings are intended to be formed on the wafer with an intended asymmetrical alignment. A diffraction signal of the first and second sets of gratings is measured after the first and second sets of gratings are formed on the wafer. The misalignment between the first and second sets of gratings formed on the wafer is determined based on the measured diffraction signal.